

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

10/510147

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 October 2003 (23.10.2003)

PCT

(10) International Publication Number
WO 03/086349 A1

(51) International Patent Classification⁷: A61K 9/12, 9/70, 31/58, 31/167, 47/10, 47/26

(21) International Application Number: PCT/US03/10285

(22) International Filing Date: 1 April 2003 (01.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0207899.6 5 April 2002 (05.04.2002) GB

(71) Applicant (for all designated States except US): 3M INNOVATIVE PROPERTIES COMPANY [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): OLIVER, Martin, J. [GB/GB]; 37 St. Leonards Road, Clarendon Park, Leicestershire LE2 1WS (GB). JINKS, Philip, A. [GB/GB]; 41 Highfields Drive, Loughborough, Leicestershire LE11 3JS (GB).

(74) Agents: RINGSRED, Ted, K. et al.; Office of Intellectual Property Counsel, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

(81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

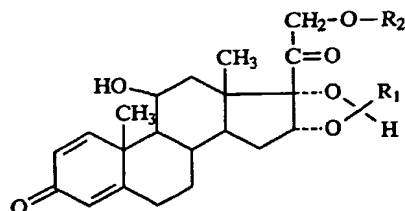
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: FORMOTEROL AND CICLESONIDE AEROSOL FORMULATIONS



(I)

(57) Abstract: A pharmaceutical aerosol formulation comprising particles of formoterol or a pharmaceutically acceptable salt, solvate or physiologically functional derivative thereof, said particles being suspended in the formulation; a compound of the formula (I), in which: R₁ is 1-butyl, 2-butyl, cyclohexyl or phenyl and R₂ is acetyl or isobutanoyl, said compound of formula (I) being dissolved in the formulation; and a propellant selected from 1,1,1,2-tetrafluoroethane, 1,1,1,2,3,3,3-heptafluoropropane and a mixture thereof.

WO 03/086349 A1